

IN THE CLAIMS:

Please amend the claims as shown below. The status of the claims after amendment will be as follows:

Claims 1 - 8 (cancelled)

9. (currently amended) A soldering method comprising:
preparing a solder bath having an initial composition
containing an oxidation suppressing element;
performing soldering of a plurality of members in the solder bath; and then
replenishing the solder bath with a replenishment solder alloy having a higher concentration of the oxidation suppressing element than does the initial composition of the solder bath.

10. (currently amended) A method as claimed in claim 9 wherein the replenishment solder alloy has the same chemical composition as the initial composition of the solder bath except for the content of the oxidation suppressing element.

11. (currently amended) A method as claimed in claim 9 wherein the solder bath contains copper, and the replenishment solder alloy has the same chemical composition as the initial composition of the solder bath except for the content of the oxidation suppressing element and copper.

12. (currently amended) A soldering method as claimed in claim 9, wherein the concentration of the oxidation suppressing element in the replenishment solder alloy is 2 to 6 times a ~~target~~ the concentration of the oxidation suppressing element in the initial composition of the solder bath.

Claim 13 (cancelled)

14. (previously presented) A soldering method as claimed in claim 9 wherein performing soldering comprises performing flow soldering.

15. (previously presented) A soldering method as claimed in claim 9 wherein performing flow soldering comprises performing wave soldering.

16. (previously presented) A soldering method as claimed in claim 9 wherein the oxidation suppressing element is selected from P, Ge, Ga, and Ce.

17. (previously presented) A soldering method as claimed in claim 9 wherein the solder bath and the replenishment solder alloy each comprise Sn, Ag, and P, and the replenishment solder alloy contains 60 - 100 ppm by mass of P.

18. (previously presented) A soldering method as claimed

in claim 17 wherein the solder bath further comprises Cu.

19. (previously presented) A soldering method as claimed in claim 9 wherein the replenishment solder alloy comprises, in mass %, Ag: 2.5 - 3.5%, Cu: 0.2 - 0.9%, 60 - 100 ppm by mass of P, and a remainder of Sn.

20. (previously presented) A soldering method as claimed in claim 9 including replenishing the solder bath with the replenishment solder alloy at a rate such that the oxidation suppressing element is supplied to the solder bath by the replenishing at at least the rate at which the oxidation suppressing element in the solder bath is consumed by the soldering.

Claims 21 - 23 (cancelled)

24. (new) A soldering method comprising:

preparing a solder bath having an initial composition containing a first nonzero concentration of an oxidation suppressing element;

performing a first soldering operation using the solder bath while replenishing the solder bath with a first replenishment solder alloy having the same composition as the initial composition of the solder bath to maintain the surface level of molten solder in the solder bath;

determining the rate of decrease of the oxidation suppressing element in the solder bath during the first soldering operation; and

performing a second soldering operation using the solder bath after the first soldering operation while replenishing the solder bath to maintain the surface level of molten solder in the solder bath with a second replenishment solder alloy having the same composition as the initial composition of the solder bath except for having a second concentration of the oxidation suppressing element which is higher than the first concentration, the second concentration being such that the rate of supply of the oxidation suppressing element in the second replenishment solder alloy to the solder bath in the second soldering operation is greater than or equal to the determined rate of decrease of the oxidation suppressing element in the solder bath.

25. (new) A method as claimed in claim 24 wherein the second concentration of the oxidation suppressing element in the second replenishment solder alloy equals

$$\frac{\text{(rate of consumption of the oxidation suppressing element in the solder bath)}}{\text{(rate of supply of the second replenishment solder alloy to the solder bath)}}$$

26. (new) A method as claimed in claim 24 wherein the concentration of the oxidation suppressing element in the second replenishment solder alloy equals

(rate of consumption of the oxidation suppressing element in the solder bath)/(rate of supply of the second replenishment solder alloy to the solder bath) + the first concentration of the oxidation suppressing element.

27. (new) A method as claimed in claim 24 wherein the second concentration is 2 to 6 times the first concentration.

28. (new) A method as claimed in claim 24 wherein the second concentration is 60 to 100 ppm.

29. (new) A method as claimed in claim 24 including determining the rate of decrease of the oxidation suppressing element in the solder bath during soldering over a plurality of days in the first soldering operation.